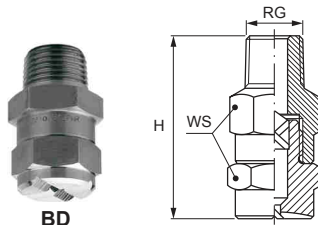


BB



BD

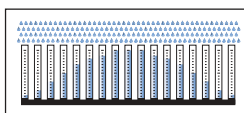
X VANE / SQUARE SPRAY PATTERN / THREE-PIECE DESIGN / EASY CLEAN

BB/BD series full cone nozzles offer a three-piece design made of body, X-vane and connection. BB/BD series nozzles supply a square section spray pattern and are suitable for working environments that strictly require a uniform coverage. The most important feature of BB/BD series nozzle is their X-vane which can be easily disassembled. It is mounted between its body and connection, allowing the narrowest passage to avoid clogging. The best choice to solve clogging problems.

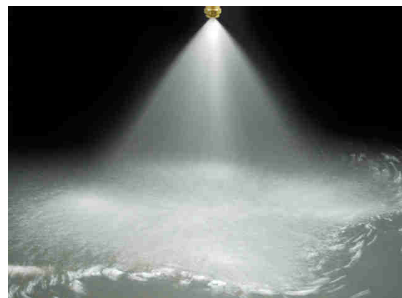
- **Thread specification**
Male (BSPT, NPT)
Female (BSP, NPT)



Spray section



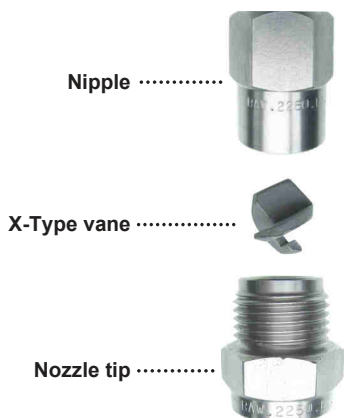
Convex distribution



SQUARE SPRAY

BBQ Female	BDQ Male	Code	RF RG inch	D mm	D1 mm	Capacity at different pressure values (l/min) (bar)							Spray angle at pressure (°) (bar)		
						0.7	1.0	2.0	3.0	5.0	7.0	10	0.5	1.5	6.0
•	•	1270	1/8"	1.8	1.0	1.30	1.56	2.21	2.70	3.49	4.12	4.93	40°	52°	47°
•	•	1360		1.9	1.3	1.74	2.08	2.94	3.60	4.65	5.50	6.57	48°	63°	57°
•	•	1440		2.1	1.3	2.13	2.54	3.59	4.40	5.68	6.72	8.03	60°	66°	60°
•	•	1740	1/4"	2.8	1.6	3.58	4.27	6.04	7.40	9.55	11.3	13.5	62°	67°	61°
•	•	1890		3.2	1.6	4.30	5.14	7.27	8.90	11.5	13.6	16.3	70°	75°	68°
•	•	2110		3.8	1.6	5.31	6.35	8.98	11.0	14.2	16.8	20.1	78°	82°	75°
•	•	2133	3/8"	3.8	2.4	6.42	7.68	10.9	13.3	17.2	20.3	24.3	71°	75°	68°
•	•	2210	1/2"	5.6	3.0	10.1	12.1	17.2	21.0	27.1	32.1	38.3	71°	75°	68°
•	•	2270		6.4	3.2	13.0	15.6	22.1	27.0	34.9	41.2	49.3	78°	82°	75°

BB/BD series nozzles produce a square spray pattern. The flat spray orientation is set with a 10°-15° offset angle from the main manifold axis to avoid jet overlapping. Therefore the correct alignment of these nozzles is very important and must be done properly. Please refer to the table below.



DIMENSIONS AND WEIGHTS

Nozzle type	RF inch	H mm	WS mm	W kg
BB Female	1/8"	30	14	0.03
	1/4"	37	17	0.04
	3/8"	46	19	0.07
	1/2"	57	25	0.20

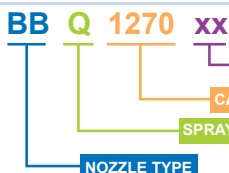
Nozzle type	RG inch	H mm	WS mm	W kg
BD Male	1/8"	32	14	0.02
	1/4"	39	17	0.04
	3/8"	47	19	0.07
	1/2"	57	25	0.20

Typical applications

- Washing:** exhaust scrubbers, parts cleaning, pre-treatment for coating processes
- Cooling:** exhaust gas cooling, tank cooling
- Coating:** oil coating, spray of chemicals
- Other applications:** dust control, leak test

HOW TO MAKE UP THE NOZZLE CODE

EX.: BBQ 1270 B1



MATERIAL

- B1 - AISI 303 Stainless steel
- B31 - AISI 316L Stainless steel
- T1 - Brass (optional)

CAPACITY

SPRAY ANGLE • Q - 60°

NOZZLE TYPE

X-VANE / SQUARE SPRAY PATTERN / TWO-PIECE DESIGN

BF/BH type nozzles have a simple two-piece design producing a square section spray pattern. They are the convenient choice where the coverage of a surface is required to be as even as possible. Their X-vane ensures uniform spray distribution and resistance to clogging, also when working with large capacities. The sides of the square spray section are not aligned with the grooves of the nozzle orifice and the offset angle is between 10° and 15° depending on working pressure and distance from the impact surface. Therefore, utmost attention must be paid during the nozzles overlay setting. They must be carefully aligned and adjusted according to the operating situation.

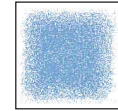


BH

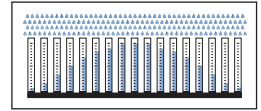


BF

- **Thread specification**
Male (BSPT, NPT)
Female (BSP, NPT)



Spray section

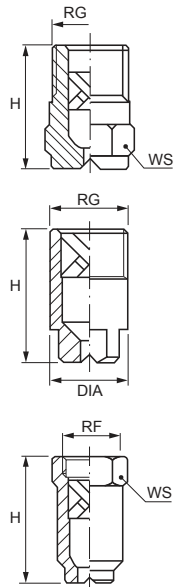


Convex distribution

FULL CONE NOZZLES

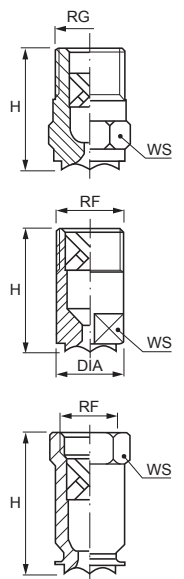
BFS Female	BHQ Male	Code	RF RG inch	D mm	D1 mm	Capacity (l/min) at different pressure values (bar)								Spray angle (°) at pressure (bar)			
						0.7	1.0	2.0	3.0	5.0	7.0	10	0.5	1.5	3.0	6.0	
	•	1270	1/8"	1.7	1.3	1.30	1.56	2.21	2.70	3.49	4.12	4.93	40°	52°	60°	47°	
	•	1350		1.9	1.3	1.69	2.02	2.86	3.50	4.52	5.35	6.39	48°	63°	60°	57°	
	•	1440		2.2	1.3	2.13	2.54	3.59	4.40	5.68	6.72	8.03	60°	66°	65°	60°	
	•	1740	1/4"	2.8	1.6	3.58	4.27	6.04	7.40	9.55	11.3	13.5	62°	67°	65°	61°	
	•	1890		3.2	1.6	4.30	5.14	7.27	8.90	11.5	13.6	16.3	70°	75°	65°	68°	
	•	2107		3.8	1.6	5.17	6.18	8.74	10.7	13.8	16.3	19.5	78°	82°	65°	75°	
	•	2133	3/8"	4.0	2.4	6.42	7.68	10.9	13.3	17.2	20.3	24.3	71°	75°	62°	68°	
	•	2210	1/2"	5.5	3.2	10.1	12.1	17.1	21.0	27.1	32.1	38.3	71°	75°	64°	68°	
	•	2270		6.4	3.2	13.0	15.6	22.1	27.0	34.9	41.2	49.3	78°	82°	65°	75°	
	•	2370	3/4"	6.7	4.4	17.9	21.4	30.2	37.0	47.8	56.5	67.6	71°	75°	64°	68°	
•		2780	1"	1.9	1.3	37.7	45.0	63.7	78.0	101	119	142	78°	80°	78°	73°	
•		3131	1 1/4"	2.4	1.3	63.3	75.6	107	131	169	200	239	78°	80°	78°	73°	
•		3170	1 1/2"	2.8	1.6	82.1	98.1	139	170	219	260	310	73°	77°	78°	70°	
•		3215	2"	3.2	1.6	104	124	176	215	278	328	393	66°	70°	72°	64°	
•		3265		3.8	1.6	128	153	216	265	342	405	484	70°	74°	75°	67°	
•		3355		1.6	1.3	171	205	290	355	458	542	648	79°	82°	75°	74°	
•		3360		1.9	1.3	174	208	294	360	465	550	657	62°	67°	70°	61°	
•		3435	2 1/2"	2.4	1.3	210	251	355	435	562	664	794	75°	78°	80°	71°	
•		3700		2.8	1.6	338	404	572	700	904	1069	1278	81°	84°	76°	76°	
•		4220	5"	1.9	1.3	1063	1270	1796	2200	2840	3361	4017	89°	91°	75°	83°	
•		4420	6"	2.4	1.3	2029	2425	3429	4200	5422	6416	7668	102°	105°	78°	95°	

Standard spray angle



BFW Female	BHW Male	Code	RF RG	D mm	D1 mm	Capacity (l/min) at different pressure values (bar)								Spray angle(°) at pressure(bar)		
						0.7	1.0	2.0	3.0	5.0	7.0	10	0.3	0.7	6.0	
	•	2100	1/4"	3.2	1.6	4.83	5.77	8.16	10.0	12.9	15.3	18.3	99°	101°	93°	
	•	2122	3/8"	3.9	1.6	5.89	7.04	9.96	12.2	15.8	18.6	22.3	99°	101°	93°	
	•	2144		4.0	2.4	6.96	8.31	11.8	14.4	18.6	22.0	26.3	104°	110°	94°	
	•	2172		4.6	2.4	8.31	9.93	14.0	17.2	22.2	26.3	31.4	104°	110°	94°	
	•	2194		5.4	2.4	9.37	11.2	15.8	19.4	25.0	29.6	35.4	104°	110°	98°	
	•	2220	1/2"	4.8	3.0	10.6	12.7	18.0	22.0	28.4	33.6	40.2	104°	110°	102°	
	•	2250		5.1	3.0	12.1	14.4	20.4	25.0	32.3	38.2	45.6	104°	110°	102°	
	•	2290		5.7	3.0	14.0	16.7	23.7	29.0	37.4	44.3	52.9	104°	110°	102°	
	•	2320		7.0	3.0	15.5	18.5	26.1	32.0	41.3	48.9	58.4	104°	110°	102°	
	•	2360		8.0	3.0	17.4	20.8	29.4	36.0	46.5	55.0	65.7	104°	110°	102°	
•	•	2500	3/4"	8.5	4.5	24.2	28.9	40.8	50.0	64.6	76.4	91.3	105°	110°	102°	
•	•	2930	1"	11.6	5.6	44.9	53.7	75.9	93.0	120	142	170	107°	110°	107°	
•	•	3134	1 1/4"	14.5	6.0	64.7	77.4	109	134	173	205	245	108°	111°	109°	
•	•	3200	1 1/2"	18.2	9.0	96.6	115	163	200	258	306	365	109°	114°	109°	
•	•	3395	2"	24.0	11.1	191	228	323	395	510	603	721	110°	114°	109°	
•	•	3590	2 1/2"	26.0	14.3	285	341	482	590	762	901	1077	110°	115°	109°	
•	•	3800	3"	31.5	17.5	386	462	653	800	1033	1222	1461	110°	115°	109°	

Wide spray angle



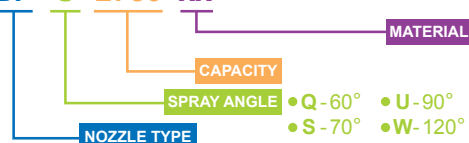
Size	inch	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	5"	6"	
H	mm	22	23	30	39	55	70	88	102	138	175	187	311	366	
WS	mm	12	14	17	21	27	32	40	50	60	85	100	170	200	
DIA	mm					32	38								
W	kg	0.01	0.02	0.03	0.04	0.20	0.35	0.55	0.80	1.6	2.0	7.8	18	25	
Manufacture		Machine						Casting							

Dimensions and weights

HOW TO MAKE UP THE NOZZLE CODE

EX.: BFS 2780 B1

BF S 2780 XX



- B1 - AISI 303 Stainless steel
- B31 - AISI 316L Stainless steel
- T1 - Brass
- D1 - PVC
- E1 - PTFE
- Q - 60°
- S - 70°
- U - 90°
- W - 120°